

ATTACHMENT 2

Early Site Permit
Scope and Associated Review Criteria for Site Safety Assessment
Primary Source of Review Guidance: NUREG-0800, "Standard Review Plan for the Review
of Safety Analysis Reports for Nuclear Power Plants" (1981)

| Area of Review | Primary Review Branch | Secondary Review Branch | SRP Section | SRP Markup Attached? | Sample Safety Evaluation Section | Comment/Additional Guidance |
|---|-----------------------|-------------------------|----------------|----------------------|----------------------------------|-----------------------------|
| Primary Review Branch: SPSB | | | | | | |
| Site Location and Description | SPSB | None | 2.1.1 | Yes | 2.1.1 | |
| Exclusion Area Authority and Control | SPSB | None | 2.1.2 | Yes | 2.1.2 | |
| Population Distribution | SPSB | IEHB | 2.1.3 | Yes | 2.1.3 | |
| Identification of Potential Hazards in Site Vicinity | SPSB | None | 2.2.1 2.2.2 | Yes | 2.2.1 | |
| Evaluation of Potential Accidents | SPSB | None | 2.2.3 | Yes | 2.2.3 | |
| Regional Climatology | SPSB | None | 2.3.1 | Yes | 2.3.1 | |
| Local Meteorology | SPSB | None | 2.3.2 | Yes | 2.3.2 | |
| Onsite Meteorological Measurement Programs | SPSB | None | 2.3.3 | Yes | 2.3.3 | |
| Short-term Dispersion Estimates for Accidental Atmospheric Releases | SPSB | None | 2.3.4 | Yes | 2.3.4 | Note 1 |
| Long-Term Diffusion Estimates | SPSB | IEHB | 2.3.5 | Yes | 2.3.5 | Note 2 |
| Aircraft Hazards | SPSB | None | 3.5.1.6 | Yes | 3.5.1.6 | |

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|--|-----------------------|-------------------------|-------------|----------------------|----------------------------------|--|
| Radiological Consequence Analyses Using Alternative Source Terms | SPSB | None | 15.0 | No Note 3 | 15.0 | Additional applicable guidance: Regulatory Guides 1.109, 1.145, and 1.183. |
| Primary Review Branch: EMEB | | | | | | |
| Hydrologic Description | EMEB | None | 2.4.1 | Yes | 2.4.1 | |
| Floods | EMEB | None | 2.4.2 | Yes | 2.4.2 | |
| Probable Maximum Flood (PMF) on Streams and Rivers | EMEB | None | 2.4.3 | Yes | 2.4.3 | |
| Potential Dam Failures | EMEB | None | 2.4.4 | Yes | 2.4.4 | |
| Probable Maximum Surge and Seiche Flooding | EMEB | None | 2.4.5 | Yes | 2.4.5 | |
| Probable Maximum Tsunami Flooding | EMEB | None | 2.4.6 | Yes | 2.4.6 | |
| Ice Effects | EMEB | None | 2.4.7 | Yes | 2.4.7 | |
| Channel Diversions | EMEB | None | 2.4.9 | Yes | 2.4.9 | |
| Cooling Water Supply | EMEB | None | 2.4.11 | Yes | 2.4.11 | |
| Groundwater | EMEB | None | 2.4.12 | Yes | 2.4.12 | |
| Accidental Releases of Liquid Effluents in Ground and Surface Waters | EMEB | SPLB | 2.4.13 | Yes | 2.4.13 | |
| Basic Geologic and Seismic Information | EMEB | None | 2.5.1 | No | 2.5.1 | References to Civil Engineering and Geosciences Branch (ECGB) should be changed to Mechanical and Civil Engineering Branch (EMEB). |

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|---|-----------------------|-------------------------|-------------|----------------------|----------------------------------|--|
| Vibratory Ground Motion | EMEB | None | 2.5.2 | No | 2.5.2 | Additional applicable guidance: Regulatory Guide 1.165. References to Civil Engineering and Geosciences Branch (ECGB) should be changed to Mechanical and Civil Engineering Branch (EMEB). |
| Surface Faulting | EMEB | None | 2.5.3 | No | 2.5.3 | References to Civil Engineering and Geosciences Branch (ECGB) should be changed to Mechanical and Civil Engineering Branch (EMEB). |
| Stability of Subsurface Materials and Foundations | EMEB | None | 2.5.4 | Yes | 2.5.4 | Additional applicable guidance: Draft Regulatory Guides DG-1101, DG-1105, and DG-1109. |
| Stability of Slopes | EMEB | None | 2.5.5 | Yes | 2.5.5 | |
| Emergency Planning | IEHB | None | 13.3 | Yes Note 4 | 13.3 | Additional applicable guidance: Regulatory Guide 1.101, NUREG-0737 Supp. 1, EPA-400-R-92-001 (May 1992), Regulatory Issue Summary 2001-16, NUMARC/NESP-007 Rev 2, NUREG/CR-4831. Criteria for emergency planning in an ESP application, for both NRC and FEMA, are contained in Supp. 2 to NUREG-0654. |
| Primary Review Branch: NSIR | | | | | | |
| Physical Security | NSIR | None | 13.6 | No Note 5 | 13.6 | |

NOTE 1: Estimates of atmospheric dispersion of offsite hazardous materials to the control room air intake will be performed as part of the ESP site safety assessment. However, because little detailed information will be available on the plant design at the ESP stage, dispersion of airborne radioactive and onsite hazardous materials to the control room will be evaluated at the COL stage.

NOTE 2: Annual average relative concentration (X/Q) and relative deposition (D/Q) values will be calculated for 16 radial sectors from the site boundary to a distance of 50 miles as part of the ESP assessment. Calculations for specific receptor locations such as the limiting residence, cow, garden, etc., will be evaluated at the COL stage.

NOTE 3: Applicable sections of Chapter 15 of NUREG-0800 will be the subject of major revision in the future. Because of the significance of the revision, a markup of the section is not provided in this version of the Early Site Permit Review Standard, but guidance is expected to appear in the final version.

NOTE 4: Attached guidance for this section of the ESP Review Standard is new guidance, not a markup on NUREG-0800.

NOTE 5: The Commission is considering whether security requirements should be revised for its various types of licensees. The NRC staff will develop guidance for this subject with regard to ESPs in the future.

NOTE 6: The following paragraphs address the radiation protection/dosimetry/site monitoring related responsibilities as they pertain to an ESP site. No guidance from NUREG-0800 is considered applicable to this subject for the ESP review.

Where a proposed ESP site is not adjacent to or near an existing operating reactor or materials facility and where it is apparent that no individual, in the course of employment related to a proposed ESP site, will exceed applicable exposure limits for members of the public, then the ESP application need not address radiological assessment or protection for workers associated with the proposed site (or with construction of a reactor at that site).

If the proposed site is adjacent to or near an existing operating reactor or materials facility, and

1) the ESP applicant and the other facility licensee are the same, that licensee is responsible for ensuring that the radiation dose to members of the public (including workers associated with the proposed site or any facility that might be constructed on the proposed site) will comply with the applicable requirements of 10 CFR Part 20. The licensee (ESP applicant) will also be responsible for providing, in the Environmental Report that supports the ESP application, the impact analysis with respect to construction worker doses as discussed in Section 4.5 (Radiation Exposure to Construction Workers) of NUREG-1555.

2) the ESP applicant and the other facility licensee are not the same, the licensee for the other facility alone is responsible for ensuring that dose to members of the public at the proposed site will comply with the applicable requirements of 10 CFR Part 20. The ESP applicant, however, will be responsible for providing, in the Environmental Report that supports the ESP application, the impact analysis with respect to construction worker doses as discussed in Section 4.5 (Radiation Exposure to Construction Workers) of NUREG-1555.

NOTE 7: The following paragraphs describe considerations in the staff's review of quality assurance measures applicable to an ESP application. No guidance from NUREG-0800 is considered directly applicable to this subject for the ESP review.

Under 10 CFR 52.18, *Standards for review of applications*, the staff reviews ESP applications in accordance with the applicable regulations of 10 CFR Part 50 and its appendices as they apply to construction permits. For ESP applications, the staff reviews those areas that address site safety, environmental impact, and emergency preparedness. ESP activities associated with site safety should be controlled by quality assurance measures equivalent to the controls described in Appendix B to 10 CFR Part 50, such that information used in subsequent design and construction is complete, accurate, and reliable.

Quality assurance criteria applicable to ESP activities are directly related to the pedigree or genesis of safety-related or risk-significant structures, systems, or components (SSCs). For example, activities involved with data collection, analysis, and evaluation for soil composition, geology, hydrology, and seismology determinations should be controlled at the same level of quality as the controls described in Appendix B to 10 CFR Part 50. Further, information derived from recognized authorities, such as the Census Bureau or the National Oceanic and Atmospheric Administration, should be controlled using processes for maintaining data integrity, traceability, document control, evaluation, analysis, and record storage that are comparable to the processes and controls described in Appendix B to 10 CFR Part 50.

The site safety assessment establishes information, such as analyses and data, that is material to the reliable performance of safety-related SSCs used in construction and operation of any reactor system that might be constructed on the proposed site. Part 52 sets forth an ESP process that has finality, in that the staff should not need to revisit site information as part of its review of a COL application. Because subsequent design and construction phases presume that information developed during the ESP phase can be relied upon for design of safety-related SSCs, the staff plans to evaluate quality controls for activities associated with generation of this design information using the criterion that these controls be equivalent to corresponding criteria in Appendix B to 10 CFR Part 50.